Appl. No. 10/565,664
Reply to final Office action of June 20, 2011

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REMARKS / DISCUSSION OF ISSUES

Claims 1 – 11 and 14 – 20 are pending in the application. Claims 1 and 11 are independent.

In the present response, claims 1 and 11 are amended. No new matter is added.

35 U.S.C. 102(e)

Claims 1 – 11 and 14 – 20 are rejected under 35 U.S.C. 102(e) over Cimini, JR. et al. (US Publication No. 20030133427, hereinafter "Cimini").

Applicant submits that for at least the following reasons, claims 1 – 11 and 14 – 20 are patentable over Cimini.

For example, claim 1, in part, requires:

> *A method of providing bandwidth fairness in a wireless network that includes a plurality of wireless stations that share the wireless network bandwidth during a particular service interval, ... ,*

> *determining an allocated transmission time for each of the wireless stations based on a set physical transmission rate, wherein each of the wireless stations has individually allocated transmission time based on at least the total quantity of data that needs to be transmitted within the service interval by each of the wireless stations. (Emphases added)*

In the Office Action, pages 2 – 3, Response to Arguments section, the Office broadly interprets the phrases "quantity of data" and "service interval" as "packet data size" and "MAC service data unit size." Applicant respectfully traverses such broad interpretation.

In the present response, Applicant clarifies that the service interval refers to the interval in which the plurality of wireless stations share the bandwidth. Applicant submits that the time to transmit a data packet or a MAC service data unit is not equivalent to the service interval. Within a service interval in which the wireless stations share the bandwidth, multiple data packets or MSDUs may be transmitted. Applicant further submits that the total quantity of data should not be interpreted as "packet data

size" or "MAC service data unit size." This is because the "packet data size" or "MAC service data unit size" refers to how a quantity of data is divided into a number of smaller units (packets), and the size of each unit being the packet size. Therefore, *the total quantity of data that needs to be transmitted within the service interval* is clearly different from Cimini's packet data size or MAC service data unit size.

Cimini, page 1, paragraph [0005] and [0003], and Fig. 5, teaches that each of the wireless stations has an individual transmission time based on the need (requirement of mixed rate nodes) of each of the wireless stations. Apparently, Cimini is not concerned about the total quantity of data that needs to be transmitted within the service interval by each station, but rather is only concerned about the nodes' transmission rates. That is, the needs of Cimini's stations are related to transmission rates, not the total quantity of data to be transmitted within the service interval.

Cimini, apparently discloses that the packet size is chosen inversely proportional to the node data rate (paragraph [0042]), and that packet size is set so that the maximum transmission times of different data rates are approximately the same (paragraph [0050]). In contrast, the claimed invention requires that an allocated transmission time depends on a set physical transmission rate wherein each of the wireless stations has individually allocated transmission time based on at least the total quantity of data that needs to be transmitted within the service interval by each of the wireless stations. Therefore, in the claimed invention, the transmissions times of the wireless stations are not necessarily approximately the same because the total quantity of data that needs to be transmitted within a service interval by each wireless station may not be the same. Whereas, in Cimini, the maximum transmission times of different data rates are approximately the same.

Cimini is related to packet shaping for mixed rate 802.11 wireless networks. As noted in Cimini, paragraph [0031], a node obtains transmission time by a contention-based access mechanism (CSMA/CA). Therefore the access to the wireless medium for transmission is sought by the node itself, not by allocation. In accessing the wireless medium using a contention-based access mechanism, there is no mechanism or need to determine the total quantity of data that needs to be transmitted within a service

interval by each of the nodes. There is no individual allocation of transmission time based on the quantity of data that needs to be transmitted within a service interval by each node under CSMA/CA. Therefore, a skilled person would not be led to individually allocate transmission times for the node.

Therefore, Cimini fails to disclose the claimed feature: determining an allocated transmission time for each of the plurality of wireless stations based on a set physical transmission rate, wherein each of the wireless stations has individually allocated transmission time based on at least the total quantity of data that needs to be transmitted within the service interval by each of the wireless stations.

In view of at least the foregoing, Applicant submits that claim 1 is patentable over Cimini.

Similarly, independent claim 11, in part, requires:

> the access point allocates a transmission time for each of the wireless stations based on their transmission requirements at a set physical transmission rate that is fixed for the service interval, wherein each of the wireless stations has individually allocated transmission time based on at least the total quantity of data that needs to be transmitted within the service interval by each of the wireless stations.

Claim 11 is different from and should be interpreted independent of claim 1. However, the Office Action rejects claim 11 based on similar arguments as discussed in claim 1. Thus, Applicant essentially repeats the above arguments for claim 1 and applies them to claim 11 pointing out why Cimini fails to disclose the above claimed features. Therefore, claim 11 is patentable over Cimini.

Claims 2 – 10 and 14 – 20 are patentable because at least they respectively depend from either claim 1 or 11, with each claim containing further distinguishing features.

Withdrawal of the rejection of clams 1 – 11 and 14 – 20 under 35 U.S.C. 102(e) is respectfully requested.

Conclusion

In view of the foregoing, Applicant respectfully requests that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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